

Facsimile: (713) 623-4846
Agent for Applicant(s)

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 6,958,296

Page 1 of 1

APPLICATION NO. : 10/625,480

DATED : Oct. 25, 2005

INVENTOR(S) : Ling CHEN, Christophe MARCADAL, Hyungsuk Alexander YOON

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

On the Cover of the Patent

Item [56], References Cited, U.S. PATENT DOCUMENTS: Please include the following reference:

2002/0164421

11/2002 Chiang et al.

In the Specification

Column 3, Line 38: Delete the first instance of "that"

Column 4, Lines 2, 3, and 21: Change each instance of "SiH₄" to --SiH₄--Column 4, Lines 2, 3, and 22: Change each instance of "N₂" to --N₂--

Column 6, Line 39: Change "be-adjusted" to --be adjusted--

Column 6, Line 48: Change "CH₃" to --CH₃--Column 7, Line 36: Change "N₂" to --N₂--

Column 7, Line 44: Before "decomposed", insert --shown in FIG. 2. TDMAT is vaporized and, upon heating of the wafer, is thermally--

Column 8, Line 46: Change "TiN" to --TiN--

Column 11, Table 3: Change each instance of "SiH₄" to --SiH₄--

Column 11, Line 38: Change "Wafer" to --wafer--

MAILING ADDRESS OF SENDER (Please do not use customer number below):

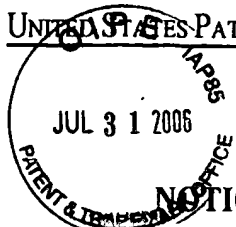
Keith M. Tackett
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd., Suite 1500
Houston, TX 77056-6582

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

05/26/2005

Patent Counsel
APPLIED MATERIALS, INC.
P.O. Box 450A
Santa Clara, CA 95052

COPY

EXAMINER

DANG, PHUC T

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 05/26/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,480	07/22/2003	Ling Chen	5335.C1	9106

TITLE OF INVENTION: CVD TISIN BARRIER FOR COPPER INTEGRATION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	08/26/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.



EV

Application No.	Applicant(s)	
10/625,480	CHEN ET AL	
Examiner	Art Unit	
PHUC T DANG	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed on April 1, 2005.
2. ☒ The allowed claim(s) is/are 4-7 (renumbered as in new claims 1-4).
3. ☒ The drawings filed on 22 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 040105 | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

PHUC T. DANG ^{PD}
PRIMARY EXAMINER

AUG 03 2006

Please type a plus sign (+) inside this box

PTO/SB/08a (08-03)

Approved for: Rough 07/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449 PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 4

of 9

Application Number	10/625,480
Filing Date	July 22, 2003
First Named Inventor	Chen, et al.
Group Art Unit	2818
Examiner Name	Phuc T. Dang
Attorney Docket Number	AMAT/5335.Y1/CPV/COPPER/PJS
Submission Date	April 1, 2005

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
PD	A85	US-20020086111	7/4/2002	Byun, et al.	—
↑	A86	US-20020086507	7/4/2002	Park, et al.	—
	A87	US-20020094689	7/11/2002	Sandhu, et al.	—
	A88	US-20020104481	7/18/2002	Bachhofer, et al.	—
	A89	US-20020106536	8/8/2002	Lee, et al.	—
	A90	US-20020117399	8/29/2002	Chen, et al.	—
	A91	US-20020135071	9/26/2002	Kang, et al.	—
	A92	US-20020144655	10/10/2002	Chiang, et al.	—
	A93	US-20020144657	10/10/2002	Chiang, et al.	—
	A94	US-20020146511	10/10/2002	Chiang, et al.	—
	A95	US-20020155722	10/24/2002	Satta, et al.	—
	A96	US-20020162508	11/7/2002	Sneh, et al.	—
	A97	US-20020164421	11/7/2002	Chiang, et al.	—
	A98	US-20020164423	11/7/2002	Chiang, et al.	—
	A99	US-20020172768	11/21/2002	Endo, et al.	—
	A100	US-20020177282	11/28/2002	Song	—
	A101	US-20020182320	12/12/2002	Leskela, et al.	—
	A102	US-20020187256	12/12/2002	Elers, et al.	—
	A103	US-20020187631	12/12/2002	Kim, et al.	—
	A104	US-20020197402	12/26/2002	Chiang, et al.	—
	A105	US-20020197863	12/26/2002	Mak, et al.	—
	A106	US-20030013300	1/16/2003	Byun	—
	A107	US-20030013320	1/16/2003	Kim, et al.	—
	A108	US-20030031807	2/13/2003	Elers, et al.	—
	A109	US-20030032281	2/13/2003	Werkhoven, et al.	—
	A110	US-20030042630	3/6/2003	Babcoke, et al.	—
✓	A111	US-20030049931	3/13/2003	Byun, et al.	—
PD	A112	US-20030049942	3/13/2003	Haukka, et al.	—

Examiner

PHUC T. DANG

Date Considered

5/17/2005

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.